

## **Risky and Protective Contexts and Exposure to Violence in Urban African American Young Adolescents**

**Maryse H. Richards**

*Department of Psychology, Loyola University Chicago*

**Reed Larson**

*Department of Human and Community Development, University of Illinois, Urbana/Champaign*

**Bobbi Viegas Miller**

*Department of Psychology, Loyola University Chicago*

**Zupei Luo**

*Center for Family Research, University of Georgia*

**Belinda Sims**

*National Institute of Mental Health*

**David P. Parrella and Cathy McCauley**

*Department of Psychology, Loyola University Chicago*

*Contexts of risk for and protection from exposure to violence were identified and the relation of exposure to violence to delinquent behaviors and symptoms of trauma was examined. Using the Experience Sampling Method (ESM), the immediate daily experience of risky and protective contexts was examined. One hundred sixty-seven African American 6th-, 7th-, and 8th-grade children from urban neighborhoods carried watches and booklets for 1 week. Structural equation modeling supported the hypotheses that more time in risky contexts and less time in protective contexts was related to more exposure to violence. Exposure to violence partially mediated the relation of time in protective and risky contexts to delinquent behaviors, assessed with the Juvenile Delinquency Scale and the Child Behavior Checklist, and distress levels, assessed by a posttraumatic stress disorder (PTSD) score.*

Exposure to community violence continues to be a common aspect of life in the inner-cities for many youth. Evidence abounds as to the negative psychological and behavioral effects of trauma associated with exposure to community violence (Trickett & Schellenbach, 1998). At the entrance to adolescence, many children face the risks associated with greater exposure to violence (Horn & Trickett, 1998), and many children experience more unstructured, unsupervised time, time that has been called "street time" or "wandering" (Stoolmiller, 1994) and that we call time in risky contexts. Additionally, as they move into adolescence,

many children experience less time in protective contexts, such as time with family and time in structured activities. Although much is known about the consequences of exposure to community violence, much less is known about what places adolescents at greater or lesser risk for exposure to community violence (Weist, Acosta, & Youngstrom, 2001). In this study, contexts of risk for—as well as contexts that might provide protection from—exposure to violence were examined. In addition, the effects of exposure to violence on delinquent behaviors and on symptoms of trauma were studied. No research to date has examined these variables in relation to exposure to violence or with a time sampling technique, an ecologically valid approach to studying contexts important to adolescents' lives (Larson, 1989; Larson & Verma, 1999).

The focus of this article is on two types of contexts. The first is a set of contexts that may enhance the likelihood of exposure to violence as well as behavioral and emotional difficulties and has been labeled *risk* or *vulnerability* (Luthar, Cicchetti, & Becker, 2000). This set of contexts is based on the findings that unmonitored,

---

This research was supported by the National Institute of Mental Health Grant R01 MH 53486 awarded to Maryse Richards. Portions of this article were presented as "Risky and Protective Contexts and Exposure to Violence in Urban African American Adolescents" by Bobbi V. Miller, Maryse H. Richards, Cathy McCauley, and David Parrella at the American Psychological Association Convention in Boston, August 20, 1999.

Requests for reprints should be sent to Maryse H. Richards, Loyola University Chicago, Department of Psychology, 6525 N. Sheridan Road, Chicago, IL 60626. E-mail: mrichar@luc.edu

unstructured, and peer time have been related to problem behaviors (e.g., Pettit, Bates, Dodge, & Meece, 1999). The second is a set of contexts that may reduce the likelihood of exposure to violence as well as behavioral and emotional difficulties and has been labeled *protective* (Luthar et al., 2000). These contexts are considered protective based on the fact that family time is viewed as an extremely valued aspect of African American life (Jarrett, 1999) and structured time has been linked with better well-being and positive socialization (Larson, 2000; Mahoney, 2000). The notion of risk is addressed first.

An important risk factor for exposure to community violence may be unstructured and unmonitored free time and time with peers, or what we call "risky time." American adolescents have large amounts of free time compared to youth in other countries (Fulgini & Stevenson, 1995; Larson & Verma, 1999), and low-income urban communities often do not have the resources to provide access to organized sports, lessons, and clubs; thus urban youth are left with relatively large amounts of unstructured free time (Carnegie Council on Adolescence, 1992). Early adolescence is a period when unstructured and unmonitored time expands. Studies of White youth show increases across this age period in amount of time spent apart from the family (Larson & Richards, 1991), amount of time spent with peers (Richards, Crowe, Larson, & Swarr, 1998), and decreases in the rate of parental monitoring (Patterson & Stouthamer-Loeber, 1984). Violence often occurs during idle time when youth are unsupervised (Stiffman, Dore, & Cunningham, 1996).

Little research has examined the relation of time spent in risky contexts and exposure to violence. Research, however, does substantiate that unsupervised free time and time with peers is related to participation in antisocial behavior, principally among older youth; thus, we extrapolated from the data on delinquency and antisocial behavior to generate our hypotheses. Rates of delinquency among older and middle adolescents are correlated with more time with friends (Agnew & Peterson, 1989; Felson, 1994). Similarly, the number of police contacts and the delinquent life-style among 4th-, 7th-, and 10th-grade children are found to be inversely correlated with rates of parental monitoring (Patterson & Stouthamer-Loeber, 1984). Evidence indicates that these types of risky time are longitudinally related to increases in delinquency (Osgood, Wilson, O'Malley, Bachman, & Johnston, 1996). Our study allows us to evaluate these types of relations for *exposure* to violence among young adolescents, relations that may be quite similar to those for *participation* in violence among older youth. Exposure to violence may partially mediate the relation of time in risky contexts to participation in delinquency.

Just as time in some contexts may increase the likelihood of exposure to violence, time in other contexts

might be expected to reduce it. Time spent with family and in structured activities constitutes two arenas of study with documented positive effects (Jarrett, 1995; Mahoney, 2000); they will be examined as protective contexts. Similar to the situation with risky contexts, no data exist that have examined the relation of time in protective contexts and exposure to violence. Even less research exists on protective time and delinquency than that on risky time and delinquency. The longitudinal study of Osgood et al. (1996) found that many forms of free time did not have a longitudinal relation with criminal behavior for 18- to 26-year-olds. It is commonly argued that adult-organized activities that add structure and monitoring to adolescents' free time will diminish risk (Carnegie Council on Adolescence, 1992). Yet findings are sparse. Cross-sectional studies indicate that participation in structured activities is inversely related to delinquent activity (e.g., Agnew & Peterson, 1989) and positively related to self-esteem, lower depression, and other indexes of young adolescent positive adjustment (Larson, Raffaelli, Richards, Ham, & Jewell, 1990; Yarworth & Gauthier, 1978). Available studies of after-school programs demonstrate benefits especially for low-income children, children in urban or high-crime neighborhoods, young children, and boys (Vandell & Shumow, 1999). Thus, we expected that time spent in structured activities would be related to lower exposure to violence.

In addition to time in structured activities, time spent with family has been found to relate to positive adjustment during adolescence, yet little quantitative research has examined the influence of family on exposure to community violence. Research demonstrates time with family appears to protect youth from experiences that place them at risk for problems (Flannery, Williams, & Vazsonyi, 1999; Galambos & Maggs, 1991). Time with extended family appears to play a particularly important role in the lives of inner-city African American children and adolescents (Jarrett, 1995; Larson, Richards, Sims, & Dworkin, 2001). Robin Jarrett (1999) has written extensively about how parents in inner-city neighborhoods develop strategies to promote the healthy development of their children, including the use of stringent monitoring, extended family, and chaperoning of younger siblings. Family engagement includes supervision of the time, space, and friendships of adolescents (Crouter, MacDermid, McHale, & Perry-Jenkins, 1990; Jarrett, 1995). By extrapolating from this work, we expected that time with family would protect young adolescents from another kind of problem, exposure to community violence.

Several studies indicate that exposure to violence during childhood and early adolescence contributes to the perpetuation of violence and delinquency (Gorman-Smith & Tolan, 1998; Prothrow-Stith & Weissman, 1991), as well as to posttraumatic stress disorder (PTSD) and other adjustment difficulties

(Cooley-Quille, Boyd, Frantz, & Walsh, 2001; Kliewer, Lepore, Oskin, & Johnson, 1998). Longitudinal studies have found witnessing community violence, as well as an interaction of witnessing and family environment, predicts greater antisocial behavior in urban 6- to 10-year-old boys (Miller, Wasserman, Neugebauer, Gorman-Smith, & Kamboukos, 1999) and behavioral difficulties in young adolescent girls (Farrell & Bruce, 1997). The symptoms of PTSD displayed by violence-exposed children appear to be the same as those displayed by children with PTSD following other traumatic events (Osofsky, Wewers, Hann, & Fick, 1993). Children and adolescents who were witnesses to violence frequently display symptoms of PTSD and distress at similar intensities as those who were victimized (Martinez & Richters, 1993).

Therefore, using the previous research as the basis, this study investigated those contexts that served as risk for or protection from exposure to violence. In this study, risky time was examined as time spent in unstructured environments, in unmonitored environments, and with peers, whereas protective time was examined as time spent with the family and time in structured activities. The specific hypotheses were as follows: It was expected that (a) as time in risky contexts increases and time in protective contexts decreases, the likelihood of exposure to violence is increased; (b) more time in risky contexts and less time in protective contexts will be related to more delinquent behaviors and symptoms of PTSD; (c) exposure to violence will be related to delinquent behaviors and symptoms of PTSD; and (d) exposure to violence will mediate the relation of risky and protective contexts to delinquent behaviors and symptoms of PTSD.

## Method

### Sample

ESM data were collected from 167 sixth- through eighth-grade (mean age = 12.46 years) African Americans living in eight different Chicago neighborhoods ranging in socioeconomic status from dense poverty to middle-working class. The eight K-8 Chicago elementary schools were selected to represent the economic range of public schools serving African American neighborhoods in Chicago. The median family income in these schools, as reported by parents, ranged from \$12,852 to \$37,892. Three schools were located in poor neighborhoods, three in working-class neighborhoods, one in a working- to middle-class neighborhood, and one was a magnet school that served children primarily from working- to middle-class neighborhoods. The student composition ranged from 100% to 88% African American, and the average sixth-grade class size ranged from 23 to 45 students

(Chicago Panel on School Policy, 1995). Most of the parents (63%) had graduated from high school and 17% had college degrees. Forty-five percent of the students lived with their mothers (or mother and other adult relatives), 33% lived with two parents (in 12% of cases this included a stepparent), 5% lived with their fathers, and the remaining 17% lived with grandparents or in other arrangements. Household sizes ranged from 2 to 14 ( $M = 5.2$ ,  $SD = 2$ ).

A sample stratified by grade and gender was obtained. In each school, the study was first described to the students and they were given permission forms to take home to parents or guardians. Consent was obtained from an average of 39% of the parents (range from 14% to 64% across schools). This overall consent rate is consistent with other research involving youth from similar demographic backgrounds (e.g., Allison et al., 1999; Cooley-Quille & Lorion, 1999). From those who returned signed permission forms, an average of 49% was both randomly selected and selected to complete the stratification by grade and gender. From this sample, 70% of students had complete data, 29% had some missing data (e.g., missing parent questionnaires), and 1% dropped out of the study. A final sample was obtained with approximately equal numbers of students across the sixth through eighth grades and a slightly higher percentage of girls (54%).

A brief anonymous survey of the entire population of the sixth through eighth grades was completed in four of the eight schools. Ease of accessibility guided the selection of the specific four schools. Limited resources prevented the sampling of students in all of the schools. Results of the anonymous survey indicated that participants in the study in these schools closely resembled the school populations on most dimensions. Those who participated in the study did not differ significantly from other students in their school in their symptoms of depression based on a shortened version of the Children's Depression Inventory (Kovacs, 1985). Participants in the study were somewhat less likely than others to live with their mothers (77% vs. 86%). Although their parents were just as likely to be employed as those of other students, their mothers had somewhat more prestigious jobs, as rated on Entwistle and Astone's (1994) socioeconomic index.

### Procedures

The Experience Sampling Method (ESM) was used to obtain data on the hour-to-hour subjective and objective experience of the participants. Participants carried programmable watches and small booklets for 1 week and provided self-reports on what they were doing, who they were with, where they were, as well as what they were thinking and feeling every time they received a random signal. Signals occurred at a random time once every 2 hr during the day between 7:30 a.m.

and 9:30 p.m. To be included in the final sample, a child had to have provided self-reports for at least 15 signals and responded to at least 50% of the signals that they were eligible to receive between their first and last completed report. Data from 20 participants were removed as a result of failing to meet these criteria. The median response rate to the ESM signals was 79% or 33 signals per person, with girls responding to an average of 81% of the signals and boys responding to an average of 78% of the signals. When the ESM data were examined for valid responses, 3% of the ESM data was removed due to concerns about validity. Rate of missed reports did not vary by time of day. The final sample produced a total of 5,822 usable ESM reports.

Procedures and instruments were adapted for this population of young adolescents. Focus groups and a small pilot of the ESM were conducted before the project to determine levels of understanding and to assist us in the development of questionnaires as well as the ESM self-report form. At the beginning of their participation, we met with the young adolescents in small groups to train them in the technique of completing booklets for the ESM and reviewed the meaning of the words and questions used. At random times within every 2-hr block of time, programmed signals cued the children to complete a brief questionnaire asking about their feelings, thoughts, activities, location, and companionship at that moment. Variables of interest to this study were based on activity and companionship codes. At the end of the ESM week, each child completed a set of questionnaires in school while separated from their classmates to ensure privacy. In addition, parents were asked to complete a short set of questionnaires about the socioeconomic status of the family, the neighborhood, and child and family functioning. Each child who completed the study was paid or given the equivalent in gift certificates of \$20 in addition to a newsletter with results from the study.

## Measures

**Grade and gender.** The participants were from Grades 6, 7, and 8. Gender was coded as boys = 1 and girls = 2.

**Socioeconomic status.** Family income was measured based on the Entwisle and Astone (1994) recommendations of asking for income of all family members in addition to asking about child support amounts, disability and social security benefits, food stamps, and other sources of income. These amounts were summed to create a value for total family income.

**Risky contexts.** Risky contexts were measured with several variables developed from the ESM data, from the companionship and activity codes, and a monitoring question. Percent time with friends was de-

veloped by looking at the percentage of time children reported friends as companions. The companionship code was developed as a schema to categorize the structured answers to the question "Who are you with?" Participants checked from a list of possible companions, which included family members, friends, alone, and other possible people in a young adolescent's life such as a teacher or coach. Responses to this question were coded into 21 inclusive subcategories, including ones that were composed of mixed and groups of friends, same gender friend(s), and boy-friends or girlfriends. The interrater reliability was established for this code at .89% agreement. Percent unmonitored free time was measured by the amount of time students indicated that no adult was monitoring them. We assessed monitoring with an innovative approach by asking students at each ESM report, "Is anyone keeping track of you?" Responses included no one, a friend, mother, father, among other possibilities. This assessment has advantages over traditional one-time measures of monitoring in that it obtains an index of immediate, hour-to-hour monitoring that is unfounded by biases of recall. Responses to this question were aggregated across the many reports for each child to obtain an index of how often the child was not being monitored by an adult. In other words, it is the percentage of time that the child was being monitored by no one or by a friend. Percent unstructured leisure time was determined by the number of waking hours spent in unstructured leisure activities. Part of the activity code, it was based on responses to the question "What are you doing?" Staff coded answers into 139 mutually exclusive codes, and interrater agreement was established at 83% for this coding. Using past ESM strategies (Csikszentmihalyi & Larson, 1984), these 139 codes were then collapsed into larger categories such as socializing and playing. The larger categories of socializing (which were based on codes such as talking with a friend and talking on the phone and playing) and media use (which were based on codes such as watching television and playing video games) were included in this risky context.

**Protective contexts.** Two variables, one based on the activity code and the other from the companionship code, were created to assess time spent in protective contexts. The first was percent structured free time, which was computed from responses to the question "What are you doing?" Activities in this category included all structured homework, extracurricular activities, creative activities, and games. The second variable that was viewed as time in a protective context was percent time with family, which was developed from the question "Who are you with?" The categories of mother, father, sibling(s), extended family, or some combination of these were included in this variable.

Based on the number of times that a child indicated being with a certain person or people or in a certain activity, we were able to calculate a percentage of time in that context relative to the other time. Each of the context variables represents the percentage of time that the child spent in each context relative to the total number of signals he or she responded to. These variables could range from 0% to 100% and were normally distributed. Some overlap exists among these variables; at a particular time, a child could be both unmonitored and engaged in an unstructured activity. Nevertheless, the correlations indicate that the variables are measuring different constructs. Time in school was excluded from these variables. A full discussion of reliability and validity can be found in Larson (1989). These ESM variables have been effectively used with many different young adolescent samples (Larson, 1989; Larson & Richards, 1991; Larson et al., 2001).

**Exposure to violence.** Exposure to violence was measured with an adaptation of the questionnaire *Things I Have Seen and Heard* (Richters & Martinez, 1993a). Two scores were derived from this measure: Victimization was assessed with 10 items ( $\alpha = .73$ ) that assessed victimization (with three items that factored into this subscale that addressed witnessing of the most severe crimes), and experiences of witnessing were assessed with 7 items ( $\alpha = .75$ ). Respondents indicated on a scale of 1 (*never*) to 4 (*often*) how often they had experienced an act of violence. A single score representing the mean of the items was computed for each of the subscales. Test-retest reliability for the full scale has been reported as .81 after 1 week (Richters & Martinez, 1993a, 1993b).

**Delinquency.** The latent variable, delinquency, included child measure and two parent-report subscales. The Self-Report Delinquency scale was used to assess child's report of delinquent behavior (delinqmean). This scale is a 20-item shortened and revised version of the scale originally developed by Elliott and colleagues (Elliott, Huizinga, & Ageton, 1985). This scale contains items typically used in assessing adolescent delinquent behaviors, including substance use, and it has demonstrated psychometric qualities. Responses ranged from 1 (*not at all true*) to 4 (*very true for me*), and a mean was computed for the 20 items. The items included in this scale are appropriate to this project's sample of young adolescents. The alpha was .83. The two scales from Achenbach's Child Behavior Checklist (Achenbach, 1991) were completed by the parents. Inter-item consistency was measured with an alpha of .70 for the externalizing subscale of Delinquency and an alpha of .91 for Aggression.

**Stress.** The Checklist of Child Distress Symptoms was used to assess symptoms of PTSD (PTSD

mean; Martinez & Richters, 1993). Developed from clinical criteria described for PTSD, this 19-item measure was successfully used with fifth- and sixth-grade inner-city children living in moderately violent neighborhoods (Martinez & Richters, 1993). The responses can range from 1 (*never*) to 5 (*most of the time*). It has been correlated with exposure to community and home violence. Our data produced an alpha of .81. In addition to this child report of stress, we attempted to include the parent report of child depression and anxiety from the Child Behavior Checklist (Achenbach, 1991;  $\alpha = .80$ ) to create a latent measure of stress. When the child and parent measure did not factor together, it was decided to drop the parent measure, as children have been found to more accurately assess their own distress.

### Data Analysis

Risky and protective contexts were examined in one model.<sup>1</sup> Although the risky and protective contexts were inversely correlated, for conceptual reasons they were examined as separate constructs. Grade, gender, and total family income were examined as covariates. Three ESM measures—percent time spent with friends, unmonitored time, and unstructured leisure time—were indicators of risky context, whereas the protective context factor was indicated by percent structured free time and percent time with family. Witnessing a violent crime and being victimized were used as indicators of exposure to violence. Juvenile Delinquency Scale scores (delinqmean) and two subscales of Child Behavior Checklist (Delinquency and Aggression) were used as indicators of delinquency. Finally, PTSD mean score was the sole indicator of stress.

Analyses were conducted with LISREL (Version 8.51; Jöreskog & Sörbom, 2001). Except where otherwise indicated, maximum likelihood estimation was used to derive the model. Although covariance matrices were used as input for all analyses, standardized parameter estimates are reported throughout this article for ease of interpretation.

<sup>1</sup>Two confirmatory factor analyses were conducted to find the best measurement model for the five context variables, that is, percent time with friends, percent unmonitored time, percent unstructured time, percent time with family, and percent structured time. The model with only one factor (i.e., context) fit the data well, with  $\chi^2(5, N = 167) = 5.50, p = .36$ , Goodness-of-Fit Index (GFI) = .99, comparative fit index (CFI) = .99; root mean squared error of approximation (RMSEA) = .029; 90% confidence interval of RMSEA = .00, .11. The two-factor model (i.e., risky and protective contexts) also fit the data well, with  $\chi^2(4, N = 167) = 5.10, p = .28$ , GFI = .99, CFI = .98; RMSEA = .042; 90% confidence interval of RMSEA = .00, .13. When the two models were compared,  $\Delta\chi^2 = .40, \Delta df = 1, p > .05$ . Therefore, the two measurement models were mathematically equivalent, and for conceptual reasons, we chose to use the two-factor model.

Overall model fit was assessed using several overall fit indexes: the  $\chi^2$ , the likelihood ratio  $\chi^2$  (LR/ $\chi^2$ ), the standardized root mean square residual (SRMR; Jöreskog & Sörbom, 2001), the CFI (Bentler, 1990), and the RMSEA (Steiger, 1990). In models that fit well, LR/ $\chi^2$  values are below 2, the SRMR values are close to 0, the CFI values are greater than .90, and the RMSEA values are less than .05.

## Results

### Descriptive Statistics and Correlations

Table 1 lists means, standard deviations, and zero-order correlations for the 14 variables for the 167 young adolescents. The average amounts of time spent in the three risky contexts are described first. For the first risky context variable, percent time with friends, young adolescents reported spending 18.7% of their time with friends. For percent unmonitored time, we found that the average child in the study reported being unmonitored for 25.5% of their time samples; in other words, for more than one quarter of the time they reported, a parent or other adult was not keeping track of them. Last, these data indicated substantial time in the third risky context, unstructured time. The discretionary activities that comprise unstructured leisure time, such as playing, watching TV, and hanging out with friends, were reported for 23.5% of the random signals. The protective contexts are described next. About 10.1% of the week was spent in structured leisure. Children reported the most time spent with family, with 36% their week in the companionship of family.

Individual two-way analyses of variance by gender and grade showed only a few significant results across all scales, but those that were significant were in the expected direction. With regard to gender differences,

boys were more likely to have been victims of violence than girls,  $F(1, 162) = 27.78, p < .001$ ; boys  $M = 1.68$ , girls  $M = 1.29$ , and they had higher scores than did girls on the Self-Report Delinquency scale,  $F(1, 162) = 24.29, p < .001$ ; boys  $M = 1.53$ , girls  $M = 1.23$ . With regard to grade differences, those in sixth grade spent less time in unmonitored situations than did those in seventh and eighth grades,  $F(2, 162) = 3.33, p < .038$ ; sixth graders  $M = 19.4$ , seventh graders  $M = 32.2$ , eighth graders  $M = 29.9$ ; and the sixth graders also spent more time with family than the other two groups did,  $F(2, 162) = 4.13, p < .018$ ; sixth graders  $M = 42.5$ , seventh graders  $M = 32.2$ , eighth graders  $M = 32.8$ . There were no significant two-way interactions across any of the variables examined.

### The Structural Model for Risky and Protective Contexts

This model examined whether risky and protective contexts were associated with exposure to violence and whether exposure to violence led to juvenile delinquency and stress. As shown in Figure 1, risky context was positively associated with exposure to violence, with a standardized parameter coefficient of .53,  $p < .05$ . Thus, the more time the young adolescents spent with peers, unmonitored, engaged in unstructured activities, or in any combination of these situations, the more they reported exposure to violence. In contrast, protective context was negatively associated with exposure to violence, with a standardized parameter coefficient of  $-.39, p < .05$ . More time with family and in structured activity was related to less exposure to violence. Exposure to violence was positively related to delinquency; standardized parameter coefficient = .89,  $p < .01$ . In addition, exposure to violence had a direct positive effect on stress; standardized parameter coefficient = .49,  $p < .01$ . In both cases, more exposure to

**Table 1.** Means, Standard Deviations, and Zero-Order Correlations for Indicators ( $N = 167$ )

Indicator	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Friends	—													
2. Unmonitored	.30	—												
3. Unstructured	.12	.10	—											
4. Family	-.36	-.33	-.22	—										
5. Structured	-.05	-.10	-.19	.19	—									
6. Witnessing	.14	.23	.19	-.12	-.20	—								
7. Victim	.16	.20	.10	-.15	-.32	.48	—							
8. Delinqmean	.12	.23	.21	-.17	-.28	.40	.57	—						
9. Delinquency	-.03	.07	.26	-.08	-.22	.23	.30	.38	—					
10. Aggression	-.07	.05	.09	.04	-.10	.18	.26	.23	.65	—				
11. PTSDMean	.24	.17	.10	-.15	-.12	.36	.35	.30	.22	.12	—			
12. Sex	.00	.08	.06	.00	.09	-.14	-.37	-.34	-.26	-.19	-.11	—		
13. Grade	.11	.17	.16	-.19	-.07	.15	.08	.13	-.02	-.03	-.05	.02	—	
14. Income	-.03	.10	.04	-.02	.04	-.13	-.12	-.11	-.15	-.08	-.15	.15	.13	—
<i>M</i>	18.7	25.5	23.5	36.0	10.1	2.6	1.5	1.4	2.3	8.4	2.6	1.5	7.0	25,816.7
<i>SD</i>	16.4	24.6	13.4	21.5	6.7	.8	.5	.4	2.2	5.9	.6	.5	.8	18,995.3

Note: A dash (—) indicates the diagonal. Gender was coded as boys = 1 and girls = 2. PTSD = posttraumatic stress disorder.

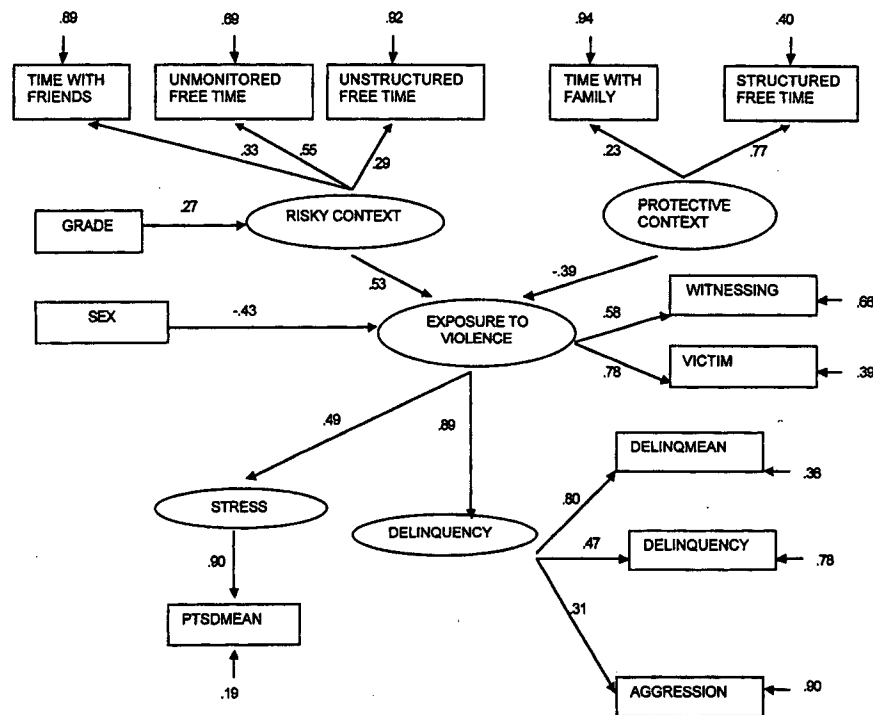


Figure 1. Parameter estimates from the structural model for risky and protective contexts, Grades 6, 7, 8 ( $N = 167$ ). Ellipses indicate latent variables, and boxes indicate observed indicators. Anchored single-headed arrows represent causal pathways, and unanchored arrows represent error variance. All parameters are completely standardized estimates from the trimmed solution, significant at  $p < .05$  or better.

violence was related to more emotional and behavioral difficulties. Grade was positively correlated with risky context; standardized parameter coefficient = .27,  $p < .05$ , adolescents in higher grades were more likely to be in risky contexts. Gender was significantly related to exposure to violence; standardized parameter coefficient =  $-.43$ ,  $p < .01$ . Girls were less exposed to violence. The model fit well, with  $LR/\chi^2 = 1.49$ , GFI = .93, CFI = .95, SRMR = .080, and RMSEA = .050.

Model Fit Statistics:  $\chi^2(60, N = 167) = 89.57$ ,  $p = .008$ ;  $LR/\chi^2 = 1.49$ ; GFI = .93; CFI = .95; SRMR = .080; RMSEA = .050; 90% confidence interval of RMSEA = .021, .073.

**Mediating effects with risky contexts.** We predicted that exposure to violence would act as a mediator of the relation between risky context and either delinquency or stress. First, to satisfy the Baron and Kenny (1986) criteria for mediated effects, the direct effect of risky context factor on the delinquency factor was tested. A separate structural model was tested in which risky context was the only independent factor variable (indicated by the variables time with friends, unmonitored free time, and unstructured free time), and delinquency was the only dependent factor variable (indicated by delinqmean, delinquency, and aggression). The model fit well. The risky context had a significant direct effect on delinquency, with a standardized path coefficient of .42,  $p < .01$ .

As illustrated in Figure 1, the model contained significant paths from risky context to violence, and from violence to delinquency and stress, although there were no significant direct paths from the risky context to either delinquency or stress. The LISREL output indicated that the indirect effect of risky context on delinquency was significant,  $Z = 2.50$ ,  $p < .05$ . Therefore, the effect of risky context on delinquency was partially mediated by exposure to violence.

Next the indirect effect of risky context on stress was examined. First, the direct effect of risky context on stress was established. A separate structural model was tested in which risky context was the only exogenous variable (indicated by time with friends, unmonitored free time, and unstructured free time), and stress was the only endogenous variable (indicated by PTSD mean). The model also fit well. Risky context had a significant direct effect on stress, with a standardized path coefficient of .42,  $p < .01$ .

With a significant direct effect, the mediation could be examined. LISREL output indicated that the indirect effect of risky context on stress was significant,  $Z = 2.33$ ,  $p < .05$ . Thus, the effect of risky context on stress was also partially mediated by exposure to violence.

**Mediating effects with protective contexts.** We also hypothesized that exposure to violence would act as a mediator of the relation between protective contexts and either delinquency or stress. First, to examine

the direct effect of protective context on delinquency, a separate structural model was tested in which protective context was the only exogenous variable (indicated by time with family and structured free time), and delinquency was the only endogenous variable (indicated by *delinqmean*, delinquency, and aggression). The model fit well. The protective context had a significant direct effect on delinquency, with a standardized path coefficient of  $-.56, p < .01$ .

As illustrated in Figure 1, the model contained significant paths from protective contexts to violence, and from violence to delinquency and stress, although there were no significant direct paths from the protective context to either delinquency or stress. The indirect effect of protective context on delinquency was significant,  $Z = -2.11, p < .05$ . Therefore, the effect of protective context on delinquency was partially mediated by exposure to violence.

Finally, the mediation of protective context to stress was examined with exposure to violence. The direct effect of protective context on stress was established with a separate structural model in which protective context was the only exogenous variable (indicated by time with family and structured free time), and stress was the only endogenous variable (indicated by PTSD mean). The model also fit well. The protective context had a significant direct effect on stress, with a standardized path coefficient of  $-.34, p < .05$ . LISREL output indicated that the indirect effect of protective context on stress was significant,  $Z = -2.01, p < .05$ . Thus, the effect of protective context on stress was also partially mediated by exposure to violence.

## Discussion

Our ESM data set supported our hypothesized model that predicted time in risky contexts would be associated with more exposure to violence and more time in protective contexts would be related to less exposure to violence. Exposure to violence was associated with greater delinquent behaviors and greater distress. The data supported a mediational model in which exposure to violence mediated the relation between time in the two different contexts and the outcome variables of delinquency and distress.

Very little research has addressed the factors that may be associated with exposure to violence. In one recent study, an interaction between family functioning and neighborhood type accounted for increased exposure to violence in 13- to 17-year-old inner-city African American and Hispanic boys (Sheidow, Gorman-Smith, Tolan, & Henry, 2001), but more typically, research has focused on demographic factors such as parental income, education, and marital status (Richters & Martinez, 1993a) and risk factors such as total life stress, family mobility, and school and behavioral

problems (Weist et al., 2001). No study to date has examined the association between how young adolescents spend time and exposure, as well as the larger model that addresses the relation of these variables to delinquent behaviors and distress.

Our results are consistent with past research that shows unmonitored time, unstructured time, and time with peers to be related to greater problem behaviors (e.g., Pettit et al., 1999). Pettit and colleagues found that the greatest risk for problem behaviors was for those young adolescents who were unsupervised, living in low-monitoring homes and comparatively unsafe neighborhoods. Osgood and colleagues (1996) wrote that "situations conducive to deviance are especially prevalent during unstructured socializing with peers in the absence of authority figures" (p. 651). Their longitudinal study of older adolescents showed that the presence of peers rendered deviant acts more rewarding and thus easier to commit, the absence of authority figures diminished social control, and lack of structure left time for deviance. This study provides further evidence for the relation of this particular set of risks and behavioral difficulties with younger urban African American adolescents. In addition, this study suggests that time in these contexts may create risk for both victimization and witnessing of violence. Exposure to violence appears to partially mediate the relations between risky time and deviance, suggesting that exposure may be a mechanism by which these well-established risky contexts affect deviance among urban African American young adolescents. The time-sampling technique employed here presents the daily experience of time as the urban youth are experiencing it, thus enhancing the ecological validity of the data.

Time in the three risky contexts consumed many hours of the average week of our urban sample. On average, the mostly 11- through 13-year-olds were on their own for almost 4 hr a day, were in unstructured activities for about 3½ hr a day, and with peers for 2½ hr a day. In a qualitative investigation to identify the perceptions of risk factors for violence, inner-city African American youth voiced the desire for schools and churches to be more active in providing kids with "something to do" so they would experience less unstructured time (Reese, Vera, Thompson, & Reyes, 2001). For urban young adolescents, living in dangerous neighborhoods may render this unstructured leisure time much riskier than for young adolescents residing in suburban communities where crime, gang, and drug activity are less prevalent. Walking down the street with friends can become a context for victimization or witnessing of violence when the street is part of disputed territory for two or more gangs. Large amounts of time with peers, especially unsupervised time, have been found to relate to more delinquency and other problem behaviors (Osgood et al., 1996; Pettit et al., 1999). Again, exposure to violence may



constitute one of the mechanisms by which greater time with peers translates into enhanced behavioral problems. The youth in the Reese et al. (2001) study discussed the peer pressure to appear "manly" by maintaining an attitude of confrontation and aggression, as well as the pressure to affiliate with gangs.

In contrast, time with family and time in structured activities was associated with less exposure to violence as well as fewer behavioral problems and symptoms of distress. Even less is known about the relation of these protective contexts and exposure and behavioral and emotional difficulties, although participation in structured activities has been correlated with less delinquency (e.g., Agnew & Peterson, 1989). Mahoney (2000) found after-school participation was associated longitudinally with reduced rates of early dropout and criminal arrest among boys and girls. As opposed to the notion that effective youth activity reduces the chances of engaging in "bad" endeavors, Mahoney and others have argued that engagement in structured skill development may be an important component. The young adolescents spent the least time in structured activities with an average of less than 1½ hr a day outside of school time. Limited community resources in poor neighborhoods, including a lack of supervised recreational facilities and after-school programs to occupy youth time, may increase the likelihood of exposure to violence (Levine & Rosin, 1996). Given the dearth of safe places for them to be, the inner-city youth, participating in the qualitative study by Reese, Vera, Simon, and Ikeda (2001), expressed the desire for schools to remain open after the school day to allow for social and recreational activities. Although youth indicated the need for more protected spaces, our findings provide the first quantitative examination of a relation between structured time and violence exposure. Along with structured activity, time with family was found to relate to less exposure. Reese and colleagues (2000) argued strongly for more attention to the role of the family in violence-prevention programming. The results presented here suggest that we need to examine the effects longitudinally of family time on violence exposure to ascertain whether time with family might limit exposure.

Time spent with families appears to be just over 5 hr a day on average. Both the importance placed on the larger extended family and the stringent monitoring and control by parents (Jarrett, 1999), in response to the dangers of the neighborhood, may contribute to the large amounts of time spent with family for certain young adolescents. Chaperonage, the accompanying of children on their daily activities by a parent, sibling, or relative, is one of the strategies used by inner-city parents to protect their children. Our findings and past research suggest that time spent with family may protect urban young adolescents from exposure to violence and thus may reduce their likelihood of engaging

in problem behaviors or suffering from the stress associated with violence. If time with family does contribute to reduced exposure, research needs to address how to support families in finding more family time when parents are already extremely stressed (Reese et al., 2000). Finally, the mediational role of exposure to violence suggests that exposure may function as a mechanism between the resources of these two protective contexts and distress as well as behavioral problems.

Although provocative, these findings have a number of limitations. First, we cannot address the myriad causes of, and solutions to, community violence. The multifaceted problem of violence needs to be understood at many levels. Second, it is the children's experience we have addressed here, with all of its limitations. Although we had parent reports for several variables, we were limited to the young adolescents' reports for our measures of exposure to violence and time in different contexts. Third, although our measures of time use probably capture the adolescent experience better than most paper-and-pencil questionnaires do, it remains unclear how well they captured the constructs of interest here. Fourth, our data come from poor to working- or middle-class young adolescents attending all-black schools in a large urban area. Our findings may not be generalizable to other urban populations of different ages or to adolescent suburban or rural populations. Fifth, perhaps more important, although these results suggest that relations may exist among time in risky contexts, exposure to violence, and behavioral and psychological problems, the data presented here cannot establish the direction of causality. It is possible, for example, that higher levels of exposure to violence, delinquency, or distress may lead an adolescent to spend more time in risky contexts and less time in protective contexts, or that unmeasured third-variable explanations could provide a better account of these results. The violence measure of lifetime exposure further limits the interpretation. Future analyses in which longitudinal data collection strategies are incorporated will help to address some of these limitations. Furthermore, a selection bias may have affected our results. Although representative in many respects, our participants indicated that they may have come from somewhat higher socioeconomic-status families than those who did not participate. In addition, the demands of the ESM may have selected out students who were very low functioning, leaving a sample of somewhat higher functioning students than might be found in the population of young adolescents living in the sampled communities.

Although this research suggests possible variables to examine as potential risk and protective contexts for violence exposure, examining contexts with more specificity may lead to particular approaches for intervention and prevention. For example, more detailed

questions on the ESM form could allow the determination of the gender, age, and grouping of the peers that place someone at greater or lesser risk for exposure. Combining peer time and types of peer pressures experienced by a young adolescent might enhance our understanding of the processes that might lead to more or less violence exposure.

In conclusion, although qualified by these limitations, the contributions consist of a first look at how young adolescents spend time that is associated with violence exposure with the use of an ecologically valid time-sampling method. The focus on an African American community sample adds to the strength of the work. The study provides the groundwork for a more complete understanding of risks for, and protection from, exposure to violence.

## References

- Achenbach, T. M. (1991). *Integrative guide for the 1991 CBCL/4-18, YSR, and TRF profiles*. Burlington: University of Vermont, Department of Psychiatry.
- Agnew, R., & Peterson, D. M. (1989). Leisure and delinquency. *Social Problems*, 36, 332-350.
- Allison, K. W., Burton, L., Marshall, S., Perez-Febles, A., Yarrington, J., Kirsh, L. B., & Merriwether-DeVries, C. (1999). Life experiences among urban adolescents: Examining the role of context. *Child Development*, 70, 1017-1029.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238-246.
- Carnegie Council on Adolescence. (1992). *A matter of time: Risk and opportunity in the non-school hours*. New York: Carnegie Foundation.
- Chicago Panel on School Policy. (1995). *Chicago public school data book: School year 1993-94*. Chicago: Author.
- Cooley-Quille, M., Boyd, R. C., Frantz, E., & Walsh, J. (2001). Emotional and behavioral impact of exposure to community violence in inner-city adolescents. *Journal of Clinical Child Psychology*, 30, 199-206.
- Cooley-Quille, M., & Lorion, R. (1999). Adolescents' exposure to community violence: Sleep and psychophysiological functioning. *Journal of Community Psychology*, 27, 367-375.
- Crouter, A. C., MacDermid, S. M., McHale, S. M., & Perry-Jenkins, M. (1990). Parental monitoring and perceptions of children's school performance and conduct in dual and single family earner incomes. *Developmental Psychology*, 26, 649-657.
- Csikszentmihalyi, M., & Larson, R. (1984). *Being adolescent: Conflict and growth in the teenage years*. New York: Basic Books.
- Elliott, D., Huizinga, D., & Ageton, S. (1985). *Explaining delinquency and drug use*. Newbury Park, CA: Sage.
- Entwisle, D. R., & Astone, N. M. (1994). Some practical guidelines for measuring youth's race/ethnicity and socioeconomic status. *Child Development*, 65, 1521-1540.
- Farrell, A. D., & Bruce, S. E. (1997). Impact of exposure to community violence on violent behavior and emotional distress among urban adolescents. *Journal of Clinical Child Psychology*, 26, 2-14.
- Felson, M. (1994). *Crime and everyday life*. Thousand Oaks, CA: Pine Forge.
- Flannery, D. J., Williams, L. L., & Vazsonyi, A. T. (1999). Who are they with and what are they doing? *American Journal of Orthopsychiatry*, 69, 247-253.
- Fuligni, A., & Stevenson, H. (1995). Time use and mathematics achievement among American, Chinese, and Japanese high school students. *Child Development*, 66, 830-842.
- Galambos, N., & Maggs, J. (1991). Out-of-school care of young adolescents and self-reported behavior. *Developmental Psychology*, 27, 644-655.
- Gorman-Smith, D., & Tolan, P. (1998). The role of exposure to community violence and developmental problems among inner-city youth. *Development and Psychopathology*, 10, 101-116.
- Horn, J., & Trickett, P. (1998). Community violence and child development: A review of research. In P. Trickett & C. Schellenbach (Eds.), *Violence against children in the family and the community* (pp. 103-138). Washington, DC: American Psychological Association.
- Jarrett, R. L. (1995). Growing up poor: The family experiences of socially mobile youths in low-income African-American neighborhoods. *Journal of Adolescent Research*, 10, 111-135.
- Jarrett, R. (1999). Successful parenting in high-risk neighborhoods. *Future of Children*, 9, 45-50.
- Jöreskog, K. G., & Sörbom, D. (2001). *LISREL 8.51: User's reference guide*. Chicago: Scientific Software International.
- Kliwer, W., Lepore, S. J., Oskin, D., & Johnson, P. D. (1998). The role of social and cognitive processes in children's adjustment to community violence. *Journal of Consulting and Clinical Psychology*, 66, 199-209.
- Kovacs, M. (1985). The children's depression inventory. *Psychopharmacology Bulletin*, 21, 995-998.
- Larson, R. (1989). Beeping children and adolescents: A method for studying time use and daily experience. *Journal of Youth and Adolescence*, 18, 511-530.
- Larson, R., Raffaelli, M., Richards, M. H., Ham, M., & Jewell, L. (1990). Ecology of depression in late childhood and early adolescence: A profile of daily states and activities. *Journal of Abnormal Psychology*, 99, 92-102.
- Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist*, 55, 170-183.
- Larson, R. W., & Richards, M. H. (1991). Daily companionship in childhood and adolescence: Changing developmental contexts. *Child Development*, 62, 284-300.
- Larson, R. W., Richards, M. H., Sims, B., & Dworkin, J. (2001). How urban African American young adolescents spend their time: Time budgets for locations, activities, and companionship. *American Journal of Community Psychology*, 29, 565-597.
- Larson, R. W., & Verma, S. (1999). How children and adolescents spend their time across the world: Work, play, and developmental opportunities. *Psychological Bulletin*, 125, 701-736.
- Levine, F. J., & Rosin, K. J. (1996). *Social causes of violence: Crafting a science agenda*. Washington, DC: American Sociological Association.
- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development*, 71, 543-562.
- Mahoney, J. L. (2000). School extracurricular activity participation as a moderator in the development of antisocial patterns. *Child Development*, 71, 502-516.
- Martinez, P., & Richters, J. (1993). The NIMH community violence project: II. Children's distress symptoms associated with violence exposure. *Psychiatry*, 56, 22-35.
- Miller, L. S., Wasserman, G. A., Neugebauer, R., Gorman-Smith, D., & Kamboukos, D. (1999). Witnessed community violence and antisocial behavior in high-risk, urban boys. *Journal of Clinical Child Psychology*, 28, 2-11.
- Osgood, D. W., Wilson, J. K., O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1996). Routine activities and individual deviant behavior. *American Sociological Review*, 61, 635-655.

- Osofsky, J. D., Wewers, S., Hann, D. M., & Fick, A. C. (1993). Chronic community violence: What is happening to our children? *Psychiatry: Interpersonal and biological processes*, 56, 36-45.
- Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development*, 55, 1299-1307.
- Pettit, G. S., Bates, J. E., Dodge, K. A., & Meece, D. W. (1999). The impact of after-school peer contact on early adolescent externalizing problems is moderated by parental monitoring, perceived neighborhood safety, and prior adjustment. *Child Development*, 70, 768-778.
- Prothrow-Stith, D., & Weissman, M. (1991). *Deadly consequences*. New York: HarperCollins.
- Reese, L. E., Vera, E. M., Simon, T. R., & Ikeda, R. M. (2000). The role of families and care givers as risk and protective factors in preventing youth violence. *Clinical Child and Family Review*, 3, 61-77.
- Reese, L. E., Vera, E. M., Thompson, K., & Reyes, R. (2001). A qualitative investigation of perceptions of violence risk factors in low-income African American children. *Journal of Clinical Child Psychology*, 30, 161-171.
- Richards, M. H., Crowe, P., Larson, R., & Swarr, A. (1998). Developmental patterns and gender differences in the experience of peer companionship during adolescence. *Child Development*, 69, 154-163.
- Richters, J., & Martinez, P. (1993a). The NIMH community violence project: I. Children as victims of and witnesses to violence. *Psychiatry*, 56, 7-21.
- Richters, J., & Martinez, P. (1993b). Violent communities, family choices, and children's chances: An algorithm for improving the odds. *Development and Psychopathology*, 5, 609-627.
- Sheidow, A. J., Gorman-Smith, D., Tolan, P. H., & Henry, D. B. (2001). Family and community characteristics: Risk factors for violence exposure in inner-city youth. *Journal of Community Psychology*, 29, 345-360.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25, 173-180.
- Stiffman, A. R., Dore, P., & Cunningham, R. M. (1996). Violent behavior in adolescents and young adults: A person and environment model. *Journal of Child and Family Studies*, 5, 487-501.
- Stoolmiller, M. (1994). Antisocial behavior, delinquent peer association, and unsupervised wandering for boys: Growth and change from childhood to early adolescence. *Multivariate Behavioral Research*, 29, 263-288.
- Trickett, P., & Schellenbach, C. (Eds.). (1998). *Violence against children in the family and the community*. Washington, DC: American Psychological Association.
- Vandell, D., & Shumow, L. (1999). After-school child-care programs. *Future of Children*, 9, 64-80.
- Weist, M. D., Acosta, O. M., & Youngstrom, E. A. (2001). Predictors of violence exposure among inner-city youth. *Journal of Clinical Child Psychology*, 30, 187-198.
- Yarworth, J., & Gauthier, W. (1978). Relationship of student self-concept and selected personal variables to participation in school activities. *Journal of Educational Psychology*, 70, 335-344.

Received October 24, 2001

Accepted July 16, 2003

Copyright of *Journal of Clinical Child & Adolescent Psychology* is the property of Lawrence Erlbaum Associates and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.